Summary Report

India Conference of the Grantees

Of the Rufford Small Grants

Date

12-13 April, 2013

Place and Venue

WWF-India, New Delhi

Organized by

Aaranyak

50, Samanwoy path, Survey,
Beltola PO, Guwahati 781028
Assam, India

info@aaranyak.org

In collaboration with

WWF

WWF-India,
172-B, Lodi Estate,
New Delhi
www.wwfindia.org

Supported by

The Rufford Foundation
www.rufford.org

Background

The Rufford Small Grants Foundation (RSG) is one of the most prominent nature conservation donors today, supporting small grants all over the world. The RSG has sanctioned 253 nature conservation grants in India since the early part of the last decade. The RSG with its small grants has offered immense opportunities to young professionals and amateurs, researchers or conservationists, to explore deeper into natural and wilderness areas from the conservation perspective. At the same time RSG has opened up the world for the grantees to explore wildlife research and conservation more as a profession and many have found it as a launching pad for their careers.

Beyond, supporting a great diversity of nature conservation projects, RSG launched a new programme as RSG Conferences. Since, it has been over a decade of funding by the RSG and now it is high time that RSG grantees meet at one platform and share their experiences. Keeping this in mind, Aaranyak and WWF-India jointly hosted this conference Delhi, India.

Conference theme

The proposed theme was- "Sharing the experiences of the RSG Grantees of India". The conference had oral presentations.

Organizers

Aaranyak (www.aaranyak.org) is a non-profit organization based in Guwahati Assam and has been working for over two decades now in scientific research and conservation of biodiversity, particularly in the northeast India. The organization promotes capacity building of young generations of biologists and has offered exposure to a large number of students, researchers and young professionals.

WWF-India is engaged in wildlife and nature conservation in the country. It has an experience of over four decades in the field and has made its presence felt through a sustained effort not only towards nature and wildlife conservation, but sensitizing people by creating awareness through capacity building and environ-legal activism.

Conference Summary

Day 1>

The first day started with an inauguration ceremony where Dr. Dipankar Ghose (Direcor, Species and Landscapes Programme, WWF-India) welcomed the participants and guests and Dr. Bibhuti P. Lahkar (Aaranyak) spoke about the event.

The event was ceremoniously inaugurated with a speech by Mr. P. K. Sen (Former Director, Project Tiger, India). He shared his experience from his long forest service tenure. He elaborated about issues of encroachment in forests and the importance of Forest act for both the forest dwelling communities and the forest department. He closed his discussion by urging that knowledge sharing and disseminating the research findings with the authorities is very important for policy decisions in the right direction to conserve and protect wildlife as well as people's rights.

Keynote Speaker Prof. Qamar Qureshi, Wildlife Institute of India, Dehradun spoke about the technicalilities of wildlife research and how it can be both positive as well as negative, he synthesised that data and its interpretation is a concept of mind and body split and conservation is applied science. He also discussed about the methods of conservation and that sometimes "Research and Policy are not dynamic in their mechanism" and conservationists sometimes must have a much broader perspective and that funding is not the issue always.

He also emphasized that good science is always without bias and agreeing to Mr Sen's statement earlier he said that good science is crucial to convince the policy makers. He also spoke about change in policies for generic drugs like Diclofenac through applied research that is ensuring that vultures survive in the Indian subcontinent.

He also said, "Conservation should not arise from linear thinking"– it should be multi-pathway spreading in multitude of directions. He stated that only bright ideas in this direction will solve the problem. According to him conservation beyond protected areas is the need of the hour. Speaking of human-leopard conflict, policies for relocating the extra leopards is crucial.

The presentations on sharing the experiences of the participants soon after a tea break and during the day 10 participants presented their work funded by RSG.

Day 2>

The day two started with the keynote address from Dr. Ghazala Shahabuddin on Communities & Conservation. She brought in examples of community conservations from different parts of India and abroad and convincingly placed her opinion that communities hold key to conservation while anthropogenic activities limit species diversity in most community conserved areas. She highlighted importance of legally protected areas for protecting high biodiversity. She shared her experiences working with communities and students across the country and mostly in the Himalayas.

During the day, nine participants shared their experiences and the participants interacted with each other at the end of each presentation by questions, suggestions and advise.

The day ended with a lively session by Mr. Samir Sinha, (Chief Conservator of Forests, Uttarakhand Forest Department and Former Director, TRAFFIC). He emphasized on the gap between policy makers/ park managers and wildlife researchers. He shared his concerns about supporting management or policy decision with the research. He also tipped the participants on issues related to wildlife research and on the wildlife protection act 1972.

The two day conference was over with a vote of thanks to the sponsors, organizing staffs, key note speakers and workshop moderators and participants for their valuable time and contributions to make this RSG Grantees India conference a successful one.

The abstract submitted by the participants are annexed to this report for more details on their work and presentation. A copy of all the presentations shall be posted separately to the RSG in due course.

The conference abstracts are inserted as Annexure I in this summary report.

India Conference of the Grantees

Of the Rufford Small Grants
Venue: WWF Auditorium, New Delhi

12-13 April, 2013

Conference Schedule			
12 April 2013		**Day 1, Friday**	
		Title/event	**Presenter**
08:30	09:30	Registration	
09:30	10:30	Inauguration	
10:30	11:00	**tea break**	
		Session 1	
11:00	12:00	Key note address 1: Conservation science and practice in India: Role of young naturalists and conservationists.	Prof. Qamar Qureshi
12:00	12:15	Showcasing Urban Herpetofauna: A Conservational Effort through Community Participation	Jayaditya Purkayastha
12:15	12:30	Conservation of Snow Leopards in the Kargil, Himalayas	Aishwarya Maheshwari
12:30	12:45	Conservation of critically endangered Bengal florican through population and habitat monitoring and by strengthening community participation in Manas National Park, Assam	Namita Brahma
12:45	13:00	Status of Primates in Mouling National Park in the state of Arunachal Pradesh, India	Dilip Chetry
13:00	13:15	Niche partitioning and coexistence of sympatric macaques in a fragmented habitat of the Upper Brahmaputra Valley, northeastern India	Narayan Sharma
13:15	13:30	The new reserve for the lion-tailed macaque 'Aghanashini Lion-tailed macaque Conservation Reserve'	H.N Kumara
13:30	14:30	**lunch break**	

		Session 2	
14:30	14:45	Human-Wildlife Conflict in Samanden Forest Village, Singalila National Park, Darjeeling - challenges for conservation and livelihood security	Sailesh Sharma
14:45	15:00	Impacts of Parvati Hydro-Electric Project Development on the Critical Habitats of Montane Birds of Western Himalaya	Virat Jolli
15:00	15:15	Lepidopteran Research to Promote a Community-based Ecotourism Initiative in Kameng Protected Area Complex, Arunachal Pradesh, India	Sanjay Sondhi
15:15	15:30	Evaluation of human-bear conflicts and its mitigation through community stewardship: A success story from Gujarat	Nishith Dharaiya
15:30	15:45	Conservation of Indian One Horned Rhinoceros in Assam	Dr. Pranjal Bezbarua
15:45	16:15	**tea break**	
		Session 3	
16:15	16:30	Altitudinal distribution and larval host plants of Himalayan Lepidoptera.	Peter Smetacek
16:30	16:45	Need of initiative for mahseer conservation in Northeast India	Boni Amin Laskar
16:45	17:00	Conserving the endemic Manipur Brow-antlered deer (Rucervus eldii eldii) in Keibul Lamjao National Park, North Eastern India, Manipur	Sangeeta Angom
18:00	19:30	Workshop: Wildlife Conservation and Development	Moderator: Christy Williams
19:30	21:30	Dinner	
13 April 2013		**Day 2, Saturday**	
09:30	10:30	Key note address 2: Communities & Conservation	Ghazala Shahabuddin
10:30	11:00	**tea break**	
		Session 4	
11:00	11:15	Consequences of hornbill hunting for seed dispersal and tropical tree regeneration in the Indian Eastern Himalaya	Pia Sethi
11:15	11:45	Developing Environmental Education Tourism in Community Forests (Van Panchayats) of Uttarakhand, India	Pankaj Tiwari
11:45	12:00	Avian Fauna of Yangoupokpi Lokchao WLS- a data deficient IBA of Manipur, its present status and conservation needs	Oinam Devi
12:00	12:15	Vulture Conservation in Ahmedabad – A Status of Extensive Conservation Efforts through Regular Monitoring, Rescue, Treatment, Rehabilitation and Awareness Practices	Kartick Shastri

12:45	13:00	Assessing the possibilities of restoring the habitat and population of Great Indian Bustard in Sokaliya area of Ajmer districtt, Rajasthan	Justus Joshua
13:00	14:00	**lunch break**	
14:00	14:15	Assessment of the population of White-naped Tit and its thorn forest habitat in Southern Aravalli Hills, Rajasthan.	Himani Kala
14:15	14:30	Strengthening of Community Conservation Initiatives in Buffer Zone of Kanha Tiger Reserve	Ameen Charles
14:30	14:45	Developing the draft conservation Strategy for Red panda, Ailurus fulgens in Darjeeling Himalayas	Sunita Pradhan
14:45	15:00	A pilot tool kit to build local capacity for snow leopard conservation and monitoring	Koustubh Sharma
15:00	15:15	From New Distribution Record To Radio Telemetry: A Journey Towards Rusty Spotted Cat's Elusive and Secretive Ecology.	Kunal Patel
15:15	15:30	Conservation initiatives in Manas National Park	Bibhuti Lahkar
15:30	15:45	Herpetofauna of the Kaziranga National Park, Assam	M Firoz Ahmed
15:45	16:15	**tea break**	
16:15	17:45	Workshop: How scientific studies could help in species conservation through government actions.	Moderator: Mr. Samir Sinha
18:00	19:00	Conclusion	
19:30	21:30	Dinner	

Participants posing for a picture (part of the participants were not available for the photo session)

The inauguaral lecture given by Mr. P K Sen, (Former Director, Project Tiger, India)

A view of the participants

ANNEXURE I

Sharing Experiences...

India Conference of the Grantees

Of the Rufford Small Grants

Venue

WWF Auditorium, New Delhi

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ABSTRACTS

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ABSTRACTS

Conservation of snow leopard in the Kargil Himalayas, Ladakh, India

Aishwarya Maheshwari

World Wide Fund for Nature-India
New Delhi

Abstract

Kargil was the battlefield of India during late 1990s thus faced severe war and related activities which resulted severe threats to wildlife including globally threatened species such as snow leopard. Thus being a sensitive zone Kargil was neglected for focused studies on wildlife. Keeping this in view, WWF-India, conducted first base-line surveys in Kargil, Ladakh to document the occurrence and distribution of large carnivores and presence of snow leopard confirmed from the battlefield of India. Along 13 trails, habitat use by these carnivores was assessed through direct and indirect evidence using Snow leopard Information Management System. Eight vantage points were selected for estimating abundance of prey species; overall density estimated 0.09/km² for Asiatic ibex and for Ladakh urial 0.06/km² in areas surveyed of Kargil. Local communities are primarily concerned with livestock depredation by snow leopard, Tibetan wolf and Himalayan brown bear which is contributing to almost 10% loss of their livestock population and affecting their livelihood. Furthermore, scats analysis of snow leopard also revealed that almost 45% diet has been contributed by livestock. Therefore, to manage such conflicts, predator proof livestock pens are being designed and promoted.

Strengthening of Community Conservation Initiatives in Buffer Zone of KANHA Tiger Reserve

Ameen Charles

Community Development Centre Balaghat, Madhya Pradesh

Abstract

Project Goal & Objectives in 30 villages of Kanha Tiger Reserve: Reduce pressure on forest and integration of conservation & livelihood

- To strengthen and aware rural people for community conservation initiatives
- To strengthen Eco Development Committee(EDC) in project area
- To skill people on sustainable harvesting of NTFP
- Train 200 community volunteers on conservation issue
- Promotion of improved wood stove to reduce pressure on forest

We have completed two year of this project around buffer zone area of Kanha Tiger Reserve, we focus on community level activities and greater involvement of local community for conservation activities around tiger reserve. Alternate source of energy i.e. use and promotion of smokeless chulha, bio-globules in place of fire wood. Skill local community for scientific harvesting of forest products, its processing and marketing to enhance the income. We believe without participation of local community, no conservation is successful the project is strengthening EDC and making coordination with park administration and community. Project gives direct support to people for vegetable seeds, fruit plants, semi timber plants, seeds etc. In last two years intervention we have mobilize community train more than 400 people on different issues of forest and wildlife conservation, activities with youth and children's.

Need of initiative for mahseer conservation in Northeast India

Boni Amin Laskar*[1], Jawan Singh Rawat[2], Mrinal Dasgupta[3], Shyama Prasad Biswas[4], Debojit Sarma[5] and D. N. Das[6]

1 Department of Biotechnology, Assam (Central) University, Assam- 788011, India
*RSG grantee & presenter
2 Department of Geography, Rajiv Gandhi University, Arunachal Pradesh- 791112, India
3 Bidhan Chandra Krishi Viswavidhyalaya, Department of Animal Science, Faculty of Agriculture, Mohanpur, Nadia, West Bengal- 741252, India
4 Department of Life Sciences, Dibrugarh University, Dibrugarh-786004, Assam, India
5 Directorate of Coldwater Fisheries Research (Indian Council of Agricultural Research), Bhimtal-263136, India
6 Department of Zoology, Rajiv Gandhi University, Arunachal Pradesh- 791112, India

Abstract

Mahseer is a very popular name for certain group of cyprinids fishes which are the charismatic freshwater aquatic fish megafauna as they grow large. Mahseer is important in the head water stream ecosystem where they occupy wide range of food web due to wide diet breadth including occasional carnivorous feeding habit. Thus, mahseer is important both ecologically and economically. However, the important mahseer fishes are threatened in the Northeast India as well as other distribution areas due to the growing harvest pressure as well as anthropogenic effects. The anthropogenic affects in the natural ecosystems are among the governable factors those have been pointed to be the causative for severe loss of biodiversity. Hence, the selected natural ecological areas have been, by laws, maintained and restricted from open access to govern the mass anthropogenic activities. Notwithstanding the resultant worst affect of anthropogenic activities being significantly higher in aquatic ecosystems than others, the water bodies as well as the biota in them have been mostly neglected in conservation actions. While a good number of protected areas exist in northeastern region of India, the conservation area dedicated for an aquatic species or a group of species is lacking. In the context, a sustainable mahseer fishery has been established in an upland lake Mehao in Arunachal Pradesh, and the similar practice would be continued in the same lake for long run conservation of mahseer. With this communication a proposal would be made to declare the particular lake as a Mahseer Sanctuary.

Status of Primates in Mouling National Park in the state of Arunachal Pradesh, India.

Dilip Chetry
Aaranyak, Guwahati, Assam

Abstract

Mouling National Park in the Upper Siang and West Siang districts of Arunachal Pradesh forms the eastern part of Dihang-Dibang Bio-sphere. A study was conducted during 2010-2011 to know the diversity and status of non-human primate in the park. The study also emphasized in identifying the threats towards primates and other wildlife of the park. Modified line transect method had been used to study the diversity of primate. The study confirms the presence of Assamese macaque (*Macaca assamensis*), Capped langur (*Trachypithecus pileatus*) and Slow loris (*Nycticebus bengalensis*). Hunting was identified to be the major threat factor to primate and other wildlife in the park. We feel the necessity for further research, awareness and community based conservation initiatives.

The new reserve for the lion-tailed macaque 'Aghanashini Lion-tailed macaque Conservation Reserve

Honnavalli N. Kumara
Sálim Ali Centre for Ornithology and Natural History, Coimbatore , Tamil Nadu

Abstract

The forests of the Western Ghats are a home to seven species of primates including slender loris *Loris lydekkerianus,* bonnet macaque *Macaca radiata,* lion-tailed macaque *M. silenus,* southern plains gray langur *Semnopithecus dussumieri,* black-footed gray langur *S. hypoleucos,* tufted gray langur *S. priam and* Nilgiri langur *Trachypithecus johnii*. Lion-tailed macaque, due to its limited occupancy and few surviving numbers always been in the news and catching the attention of conservationists and forest managers. Lion-tailed macaque is endemic to a narrow strip of evergreen forests of the Western Ghats in the states of Kerala, Tamil Nadu and Karnataka. Geographically lion-tailed macaque is restricted to south of Aghanashini River in the central Western Ghats in the state of Karnataka to Agastyamalai hills in the southern Western Ghats in Kanyakumari and Tirunelvelli districts in the state of Tamil Nadu. The total population in the wild may be about 3,500 individuals. The recent findings show a decline in the population size and possible local extinction in certain reserves and parks. Nevertheless, few large and contiguous populations still exists in the wild. However, large extent of rain forests inhabited by lion-tailed macaque is yet to be surveyed. The survey during 2000 and 2001, revealed that there are about 650 lion-tailed macaques in 32 groups found in the forests of Sirsi – Honnavara. However, a detailed survey was carried out during 2007-2008 and later a long-term detailed study was initiated. The largest known populations, which can be considered as viable populations exists in the forests of Sirsi-Honnavara in Canera Forest Circle, Kalakad-Mundanthurai Tiger Reserve, Kurdremukh National Park - Someshwara Wildlife Sanctuary and Silent Valley National park. The present study reconfirms the results of our earlier survey of largest lion-tailed macaque population in this region, which formed the basis to identify the area as a potential conservation reserve for the lion-tailed macaque. A plan was submitted to Principal Chief Conservator of Forests (Wildlife) in 2008. A GO has been passed to notify an area of 299.52 sq km as "Aghanashini Lion-tailed macaque Conservation Reserve" on 13/06/2011.

Lake conservation in Jaipur through citizens' initiative

Harsh Vardhan

Abstract

Jaipur's Man Sagar lake offered numerous benefits. However, it became a cesspool of sewer since 1970s as city's sewage was flowing in to it. When authorities were contacted during early 1990s, they appeared unconcerned. A visit to the British Bird Watching fair in 1994 taught a lesson -- Anglian Water was conserved through the Fairs. The Indian Birding Fair was started at Man Sagar in 1995 to establish a dialogue with stake holders. Not an easy task but interventions were made at the lake's bed, shores and eight earthen islands were created within the lake to utilise silt which was coming out in a desilting drive. Indigenous plants (*Acacia nilotica*) were grown over islands to facilitate heronry. Aquatic vegetation and fish related quantification was possible through support received from Rufford Small Grants which helped in a big way to carry on lake restoration. A conservation constituency has thus been created in Jaipur, estimated about a quarter million inoculated through the past 16 Fairs so far. Of these, about 45,000 appear to be somewhat concerned. The effort is to get Urban Lakes restored through bio-treatment processes and create different examples for re-cycle and re-use of water. Things do happen when stake holders get involved.

Showcasing Urban Herpetofauna: A Conservational Effort through Community Participation

Jayaditya Purkayastha
Help Earth, Guwahati- 781007, Assam

Abstract

The study on Urban Herpetofauna was conducted from September 2011 to July 2012. In this study 63 species of herpetofauna were found of which 17 species were amphibians and 46 species were reptiles. Important scientific findings of the project were rare snakes *Xenochrophis cerasogaster and Xenochrophis schnurrenbergeri,* an invasive gecko *Hemidactylus flavivirids*. Data were extracted from temple ponds (Kamakhya and Ugratara) of study site and their importance for turtle conservation. As an off shoot of this project work a new species of Dicroglossid frog has been described from Mawphlang of Meghalaya state. The new species is named as *Fejervarya sengupti.* Apart from inventory of herpetofauna the project also initiated research activities involving students; awareness workshops on snake bite management and amphibian awareness, Organised "Save the Frogs Day" distribution of informational materials etc. A book titled "Urban Herpetofauna" was also released and distributed to dissipate the scientific findings to masses. During the project period five scientific and three popular articles were composed.

Vulture Conservation in Ahmedabad – A Status of Extensive Conservation Efforts through Regular Monitoring, Rescue, Treatment, Rehabilitation and Awareness Practices

Kartik Shastri

Abstract

Ahmadabad and surrounding area of 100km radii currently holds a population of approx. 120 Gyps bengalensis and 59 active nests as per 2012 survey. From 2009 onwards we have rescued 121 white rumped vultures of which approx. 50% were injured by kite strings and rest were cases of visceral gout and dehydration. We have spread awareness about diclofenac and spill over of human diclofenac in veterinary sector and kite festival related injuries through print media, television, radio and satellite communication. We have also given presentations to number of schools, groups of nature lovers and conferences. An extensive interaction with skinners, veterinarians and stakeholders has proven of great importance. Extensive monitoring of nesting/roosting and traditional feeding sites "*Panjrapols*" have been of great importance for vulture conservation. RSGF along with Bombay Natural History Society, Royal Society for Protection of Birds, Zoological Society of London, Bird conservation society Gujarat and Jiv Daya Charitable trust (Ahmadabad) have been of great help in all these activities. I hope to work with RSGF for expanding our work at wider scale in Gujarat.

A pilot tool kit to build local capacity for snow leopard conservation and monitoring

Koustabh Sharma

Abstract

The snow leopard (*Panthera uncia)* is one of the world's most threatened large cats and is classified as 'Endangered' by IUCN. Retaliatory persecution of snow leopards by pastoralists, depletion of wild prey, habitat degradation and fragmentation, and poaching pose serious challenges to the species' survival. Due to a lack of adequate technical know-how among field personnel, evaluation of snow leopard population trends and the impact of conservation programs have been largely hampered. In 2009 I received a First RSG grant to develop and pilot a tool kit to build local capacity for snow leopard conservation and monitoring. The training tool-kit was piloted in China and Mongolia. Reviews from the training showed 100% of participants pleased and a high majority of trainees (mostly wildlife managers) describing it as useful. The breadth of topics combined with time constraints left participants with introductory knowledge and 65% expressed the need for more focused follow-up in order to apply their learning in the field more effectively. I have also recently helped the Snow Leopard Trust complete a comprehensive framework and accompanying manual for monitoring snow leopard populations and conservation program impacts. This is an opportunity to re-engage and advance their skills of our original trainees, reach out to new trainees, and introduce the new monitoring framework to begin more systematic monitoring efforts.

From New Distribution Record To Radio Telemetry: A Journey Towards Rusty Spotted Cat's Elusive and Secretive Ecology

Kunal Patel

Abstract

Rusty spotted cat *Prionailurus rubiginosus* is the world's smallest wild and endemic cat species of the Indian Sub-continent and found in two subspecies only in India and Sri Lanka. This cat has so far not been the focus of a dedicated research program except our sincere efforts since 2004 in the western and central parts of India. Until today, only few observations are available on its distribution across the entire known distribution range of this cat in India apart from our exclusive research. These observations have revealed that the most of the populations of this cat survive out side the protected area network (specifically designed for the wildlife conservation). At the same time unfortunately this cat has been rarely studied under any dedicated population estimation based research program, the population status of this cat in the wild is still unknown, which put this cat in great danger in the face of the fast phase of the forest-habitat destruction and alteration. Our ongoing research based conservation programme (since 2004) in the Eastern Gujarat of the Western India have indicated the relatively high population abundance of the Rusty spotted cat in the entire known distribution range across India. It was October 2004 when this cat was sighted for the first time in the history of its distribution range outside the protected forests. After the 5 years of hard work since its first record we could just derived the Encountered rate as 0.07 cat/Km driven for this cat. Results also indicated that the species was wide spread resident and also did not seem to be a habitat specialist. Besides these we could know nothing due to its elusiveness and nocturnal habits and also unlike larger cats, these smallest wild cats do not travel on set trails as well as don't leave their faeces exposed; precluding applications of camera trapping, scat collections and spoor tracking, the best known non-invasive methods. Radio Telemetry has been selected as the most suitable and only available tool to study the smallest secretive and arboreal amongst all wild cats to evaluate the first of its kind of the conservation program focusing the Indian sub continent.

Inventory of Herpetofauna and Evaluation of their Conservation Status in the Kaziranga National Park, Assam, India.

M Firoz Ahmed and Abhijit Das

Aranyak, Guwahati, India

Abstract

For the first time in its hundred years management history a systematic inventory of herpetofauna of the Kaziranga National Park was undertaken in the year 2004. Altogether 86 days and more that 2700 man-hour were spent in the field to record

1. 24 species of amphibians under 7 families, 14 genera.
2. 74 species of reptiles that includes 1 Crocodilian, 17 turtles, 35 snakes and 21 lizard species.
3. 20 out of 24 species of amphibians and 56 out of 74 species reptiles were recorded for the first time from the Park.

Among these herpetofauna recorded from the park, 23 species are considered as globally threatened. The Kaziranga Park is also recognized as a hotspot for turtle conservation within the country due to its high diversity of turtle fauna. The team also conducted several awareness campaigns to educate the staff and common people taking the opportunity of the Kaziranga Centenary Celebration that brought several thousand mass together in 2004. Followed by this study as part of the RSG continuation of grant a field guide to the amphibians and reptiles of Northeast India was published both in English and Assamese.

Conserving the Himalayan Grey Langur, *Semnopithecus ajax*, an Endangered, endemic species of primate.

Martina Anandam

Abstract

Semnopithecus ajax or the Himalayan Grey Langur is a little known primate believed to be endemic to the Chamba Valley of Himachal Pradesh in the western Himalaya. Described for the first time in 1928 by Reginald Innes Pocock from Chamba, the langur has remained virtually unknown since then. The Himalayan Langur Project is the first of its kind in the region working to rediscover and establish baseline information on the langur. The goal is to establish a sustainable environment for the langur through holistic participatory conservation. While field surveys help in mapping langur distribution, habitat quality, and conservation threats, community interviews help in understanding conflicts, human-langur relationships, and human perceptions of their environment and wildlife in general. Deforestation for agriculture, habitat degradation, forest fires, human-langur conflicts, and other upcoming developmental projects sound serious threats to the langur warranting conservation in the region. In line with its goal the project is seeking to identify and collaborate with concerned stakeholders to establish a participatory conservation initiative to create a more balanced environment for both humans and the langurs. Conservation Outreach in schools, colleges, other community congregations to sensitize the people of their environment, of which the langur is a part of, and the need for conservation will be implemented in the coming months. The nine months of intense field studies has brought a number of serious conservation and conflict issues into light. The project is seeking to create a platform to establish holistic conservation through rigorous scientific and conservation research to benefits the Himalayan Grey Langur and the Himalayan ecosystem as a whole.

Conservation of critically endangered Bengal florican through population & habitat monitoring and by strengthening community participation in Manas National Park, Assam.

Namita Brahma

Arayanak, Guwahati

Abstract

Bengal florican is a critically endangered grassland bird. It is found in open short grasslands of the terai and flood plains. The global population of Bengal florican is not more than 1000 birds, found only in India, Cambodia and Nepal. The breeding season starts from February to July during which the male become extremely territorial. During its breeding period the male Bengal florican exhibit territorial displays that include ground displays and flight displays. The study was carried out in the Manas National Park. Data were collected on ecological parameters such as comparative study of habitat inside the Park and in Koklabari Agricultural Farm. We have recorded 27 male Bengal floricans having confirmed territories in 8 different sites. Six individual Bengal floricans were sighted having confirmed territories in two sites in the western part of Manas National Park during the survey. The height of ground vegetation inside the territory of Florican is significantly smaller than that of outside territory ($t = 5.25$, $p < .0001$, $df = 858$). A total of 59 plant species was indentified belonging to 13 families in florican habitat of Manas. For food availability study we sampled insect availability in the Bengal florican habitat. Grasshoppers are found to be most abundant in Bengal Florican habitat. Maximum diversity of grasshoppers was shown by family Acrididae (90 %) representing 4 species. A total of 5 awareness programmes were organized where 132 women folks participated. This study recommends the urgent attention, intensive protection and proper management of the unique grassland ecosystem.

Niche partitioning and coexistence of sympatric macaques in a fragmented habitat of the Upper Brahmaputra Valley, northeastern India

Narayan Sharma, MD Madhusudan and Anindya Sinha

National Institute of Advanced Studies, Bangalore, India
Nature Conservation Foundation, Mysore, India

Abstract

How closely related species co-exist, especially under conditions of resource limitation remains an intriguing problem in ecology. Having to share space and resources, such species are expected to have evolved a variety of behavioral mechanisms to reduce competition. Understanding such adaptation could also provide clues to design effective conservation strategies for these species. In this study, we examine the niche partitioning and co-existence of three congeneric species, the rhesus macaque, pig-tailed macaque and stump-tailed macaque, in a fragment of less than 20 km^2, the Hollongapar-Gibbon Wildlife Sanctuary, which still harbors a significant proportion of original species pool. An intensive observational study was conducted on two troops each of the three species over a period of 23 months from March 2008 to January 2010. We examined niche partitioning among the macaques along two major axes—space and food. Our results found significant interspecific differences among macaques in their utilization of both horizontal and vertical space, as well as in their utilization of food resources. The differential utilization of space and food has enabled continued co-existence of the three macaque species in this fragment. At the fragment-level and over proximate time-scales, our results explain why primates, particularly the three species of macaques, are able to thrive even after being isolated for over one hundred years. Ecological and behavioral insights gleaned from this fragment will help us understand and promote co-existence of primates in other habitat fragments of the Upper Brahmaputra Valley.

Evaluation of human-bear conflicts and its mitigation through community stewardship: A success story from Gujarat

Nishith Dharaiya
Department of Life Sciences, Hemchandracharya North Gujarat University, Patan Gujarat

Abstract

Sloth bears (*Melursus ursinus*) are patchily distributed in Gujarat and tend to inhabit the forests of the low lying hills and adjacent lowlands. The bear habitats consist of forests that are fragmented and degraded providing poor habitat conditions for bears and increasing the potential for human-bear encounters. Frequent bear attacks on human and crop damage turn the local people hostile toward bears. Such hostility of local villagers may become an obstacle to efforts to conserve bears. Optimizing human-bear coexistence in the area may be one of the sustainable ways out to promote bear conservation. In 2007, we began a survey of sloth bear distribution and assessment of bear-human conflicts in Gujarat. The study has been carried out in protected and un protected forests of Gujarat state through collecting information about bear attack and interviewing the victims. We found, bear mostly attack when the female carrying her babies and disturbed due to human movement. The interaction with locals reveals that people are more hostile due to the frequent visits of bears and other wildlife such as leopard, wild boar, etc in the human dominated areas. Using the findings of the present research and identifying the areas with intense conflict situations, we started the awareness campaigns for local people and workshops for forest field staff. Comparing the bear attack data of 2007, 2009 and 2011 shows significant decrease in bear –human interaction mainly in forest villages. The change in perception of local people towards bears and decrease in bear attacks may indicates the success of wildlife conservation through community participation.

Avian Fauna of Yangoupokpi Lokchao WLS- a data deficient IBA of Manipur, its present status and conservation needs

Oinam Sunanda Devi

Abstract

The Yangoupokpi- Lokchao Wildlife Sanctuary is one among the nine Important Bird Areas (IBA) identified in Manipur. The Sanctuary is located at the Indo-Myanmar border of Chandel district and it lies in the geographical area of 24° 20' 10" N latitudes and 93° 46' 50" E longitudes covering an area of 18,480 ha. Field surveys of the present research work were started from March 2012 and will be completed by December 2013. Data on bird species abundance were collected using distance sampling. A total of 82 bird species belonging to 28 families were recorded so far from the Sanctuary. Of these 27 are Rare and 55 are Common species, including one Endangered, one Near Threatened and four migrant species. Some notable species include *Pavo muticus, Syrmaticus humiae, Anthracoceros albirostris, Turnix sylvatica, Ninox scutulata, Psittacula himalayana, Hirundo daurica*, *Hypsipetes leucocephalus, Dicrurus hottentottus, Falco tinnunculus and Eumyias thalassina etc.* Large scale destruction of forest for *Jhum* cultivation side by side excessive logging of timber, hunting and poaching of wild birds and animals are taking a heavy toll on the present existing natural habitat of the Sanctuary. Excessive cutting and burning of trees for making charcoal are also rampant in the area. In this regard, there is immediate need for awareness education programs on conservation of threatened birds and other such wildlife and its associated habitats and the importance of the Sanctuary itself on the local communities for their own livelihood and survival.

Developing Environmental Education Tourism in Community Forests (Van Panchayats) of Uttarakhand, India

Pushkin Phartiyal And **Pankaj Tewari,**
Central Himalayan Environment Association (CHEA), Nainital, Uttarakhand, India

Abstract

Van Panchayats (VPs) are a unique institution, representing grass-roots environmental governance in Indian Central Himalayas. VPs took birth in late 1920s, and are arguably the oldest community forest institutions. While the modified Rules 2005 provided mechanisms for benefit–sharing, however, on ground more than 12,558 VPs are in reality struggling for economic sustainability. The project aimed at building Village Forest Councils (VFCs) capacities to undertake Environmental Education Tourism for economic returns and to extend opportunities for school children to be aware of their local environment and ecosystem services emanating from them. Field study of 15 VPs was carried out to select 02 VPs based on minimum criteria for their selection. A manual for the VPs developed through community participation. In addition a common manual which acts as a template for all VPs for planning tour was also developed accordingly for replicating the concept in the state. The manual was followed by tours to these VPs from different schools located in the township. Route map was given emphasis to provide diverse information to the visiting students. The feedback received from the students as well as teachers were incorporated in the manuals. The activity enabled the VFCs and SHGs to take up environmental education as an alternative livelihoods enhancement activity. Afterwards the concept was shared at different platforms to extend it at state level in presence of forest department officials, development agencies and NGOs. District and state level workshops were organized to create the opportunity for sustaining the VPs on one hand and also easy access to environment education in a practical manner.

Consequences of hornbill hunting for seed dispersal and tropical tree regeneration in the Indian Eastern Himalaya

Pia Seithi

Abstract

Hunting is widespread throughout the tropics with potentially severe consequences for forest dynamics particularly seed dispersal and forest regeneration. Seed dispersal confers a critical survival benefit to several plant species by moving seeds away from density dependent mortality factors in the vicinity of adult conspecifics and to microsites favorable for establishment and is often key to forest regeneration and recruitment. Because hunters preferentially exterminate large-bodied seed dispersers such as hornbills, I hypothesize that hunting pressures will likely disproportionately impact the dispersal ecology of large-seeded tree species as compared with small-seeded ones since only large frugivores have the ability to ingest and transport large seeds. In contrast, small seeds can potentially be transported by a generalized suite of, small-bodied frugivores thereby reducing the possibility that they may be dispersal limited due to the loss of their dispersers. The results of this study were consistent with the idea that disturbance disrupts mutualisms between hornbills and some large-seeded food plants, with the caveat that role redundancy within even small and specialized disperser assemblages renders other tree species less vulnerable to loss of regular dispersal agents.

Indian Giant Squirrel in the Western Ghats of Maharashtra Stretching too Far for Survival?

Prachi Mehta

Wildlife Research and Conservation Society, Pune

Abstract

The endemic Indian Giant Squirrel *Ratufa indica* has four sub-species that are widely distributed from the Western Ghats region to Central India. After the local extinction of *R. i. dealbata* from the Western Ghats of Gujarat, *R.i.indica* Erxleben 1777 represents the northern-most distributional range of giant squirrels in the Western Ghats. We estimated the occupancy, density, relative abundance of giant squirrel and evaluated the possible threats to its population from six Protected Areas and intervening Reserved Forests from October 2011 to June 2012 in the Western Ghats of Maharashtra. To determine the occupancy of giant squirrels, 184 grids of 5.07 km^2 were surveyed on foot in semi-evergreen and moist forests. The naïve occupancy (***Psi***) was estimated to be 0.75 indicating that 75 % of the sampled landscape was detected to have squirrel while the realized ***Psi*** was 0.95 (SE 0.03) with a detection probability (***p***) of 0.61**(±0.05).** Density of giant squirrel was highest in Bhimashankar Wildlife Sanctuary with 15.89 individuals/km^2 (range:11-22,18.29% CV) while density from the remaining areas was estimated at 2.92 km^2 (range:1.94-4.43,15.82 % CV). The relative abundance estimates indicates that although giant squirrels are present in the semi-evergreen and moist forests of Maharashtra Western Ghats their densities are lower than densities reported from similar vegetation in Karnataka. The Western Ghats of Maharashtra have been witnessing changes in land-use due to agro-industry based plantations, commercial and developmental projects which are rapidly modifying the forests in this region. Hunting of giant squirrel for its meat and trade is a perennial threat throughout its distributional range. In some areas of Southern Maharashtra, giant squirrels have adapted to feeding on coconut plantations and are paying a price for it through their lives. Efforts are required for restoring degraded habitats, protecting source populations and monitoring uncontrolled hunting of giant squirrels in its home state of Maharashtra.

Conservation of Indian One Horned Rhinoceros in Assam

Pranjal Bezbarua

Abstract

Besides habitat suitability study, to support rhino reintroduction and conservation in Manas biosphere reserve, we involved in awareness campaigns and socioeconomic upgradation of forest dependents and ex-poachers turned conservation volnteers to create a friendly buffer cover around Manas since 2005. Awareness meetings supported by leaflet in local langauge was the streategy for capacity building of local stakeholders on rhino conservation campaigns that extended to Orang national park having 64 rhinos. With support of local NGOs, a model was created for behaviour change of surrendered poachers and forest dependents through training and in kind support on alternative livelihood options like piggeries, multiple horticultural crops, bee keeping and sericulture covering 200 families. This was followed by promotion of school education of their children. We also raised 1370 pound through ecotourism to provide ration to 80 conservation volunteers during crisis period. In second phase, we identified potential rhino habitat in buffer zones as part of rhino stray management, developed map of major invasive species like *Chromaelaena odorata*, *Leea asiatica* and tree like *Bombax ceiba* in Manas for designing future habitat improvement. Arrangement of antipoaching kits including solar items helped petrolling conservation volunteers in minimizing threat on the species. A rapid socioeconomic survey in fringes of Orang recommended that the poor villagers with agricultural background need to be supported through better health, education and eco-friendly livelihood facilities for better community participation. Rufford Small Grants helped us to generate additional resources to continue rhino conservation work in Manas and other parts of Assam.

Human-Wildlife Conflict in Samanden Forest Village, Singalila National Park, Darjeeling - challenges for conservation and livelihood security

Sailesh Ch. Sharma
DLR Prerna, Darjeeling

Abstract
Human - Wildlife Conflict(HWC) occurs when wildlife requirements overlap with those of human populations creating costs both to residents and wild animals. (IUCN World Parks Congress, 2003). World over, man-animal conflict is increasing at an alarming rate. Man-animal conflict has been in existence for as long as humans have existed and wild animals and people have shared the same landscapes and resources (Lamrque *et. al.* 2008). Darjeeling is part of the Eastern Himalaya Bio-diversity hotspot and has a high concentration of Protected Areas. Majority of conservation efforts are focussed in these protected areas with a predominant paradigm of conservation in islands with little attention to corridor connectivity and integrity. Communities living in and around Protected Areas are not included as primary stakeholders. In many instances, these communities are highly marginalised and living in difficult circumstances. The paper proposes to highlight the issue of HWC Darjeeling Himalaya presenting factual data from Samanden Forest Village fringing Singalila National Park, Darjeeling. The study shows increasing HWC through crop depredation by a host of small mammals resulting in livelihood and food insecurity for these forest dwellers. Mitigation measures have been adopted by the communities but are insufficient. The paper looks into the existing redressal and compensation mechanisms on HWC. Examining the predominant HWC discourse which tends to be mega-fauna based and does not always include these small mammals resulting in policy gaps for the mountain regions.

Conserving the endemic Manipur Brow-antlered deer (*Rucervus eldii eldii*) in Keibul Lamjao National Park, North Eastern India, Manipur

Sangeeta Angom

Abstract

The Manipur's brow antlered deer (*Rucervus eldii eldii*), popularly known as Sangai is one of the most endangered species of deer in India. It was once believed to be extinct; a small population of around 14 individuals was rediscovered in 1975 at the southeastern fringe of the Loktak Lake, Manipur. This area was protected and declared as Keibul Lamjao National Park. Since then the population of Sangai has increased considerably. The reported population in 2003 was around 180 individuals of different age and sex. The study was intended to assess the factors affecting the Sangai population and to impart conservation awareness programmes involving indigenous local communities, forest department, non-governmental organization, local clubs, academic and research institutions ensuring conservation importance and reasons to preserve the biodiversity of the Keibul Lamjao National Park. Based on the factors affecting the Sangai population, extinction probabilities was calculated. In 100 simulations of population for 100 years in a scenario using Vortex where catastrophe (flood) and deteriorating habitat conditions with 3-4 off takes (poaching) gave the probability of extinction of 0.08 ($\pm$0.0271) with a mean growth rate (r) 0.0554 annum^{-1}. In Scenario II, there was deteriorating habitat but no flood to catastrophe level with 3-4 off takes gave the probability of extinction as 0.02 ($\pm$0.0140) annum^{-1} with a population growth rate (r) of 0.0645 annum^{-1}. In Scenario III where only impact of flood that occurred to a catastrophe level but deterioration of *Phumdi* was halted with 3-4 off takes gave a probability of extinction of 0.06 ($\pm$0.0237) annum^{-1} mean population growth rate (r) was 0.0548. In scenario IV where none of these factors were operating the population figure was 189.32 ($\pm$4.05; 40.50) and the population is likely to continue at a mean growth rate (r) of 0.0572 annum^{-1} with very little probability of extinction.

Lepidopteran Research to Promote a Community-based Ecotourism Initiative in Kameng Protected Area Complex, Arunachal Pradesh, India

Sanjay Sondhi

Titli Trust, Dehradun, India

Abstract

Eaglenest WLS is part of the Kameng Protected Area Complex in Arunachal Pradesh, covering 3500 sq. km of closed-canopy forest ranging in altitude from 100 to 3500 m. This landscape includes the Pakke, Sessa Orchid and Eaglenest WLS. At Eaglenest, bird tourism, successfully initiated through a RSG funded project (2003-2006) by Ramana Athreya, contributes significantly to the local economy. The local tribe, the Buguns, supports this community-based ecotourism effort, and it provides them with a significant incentive to conserve. At Pakke Tiger Reserve, the Nyishi tribe forms a significant part of the local community. A community-based ecotourism venture has just taken root at Pakke in collaboration with the Ghora-Aabhey Society, the Forest Department and Help Tourism, with the physical infrastructure to conduct tourism having been established only months ago. The first phase of an RSG funded grant from 2010-2012 resulted in the discovery butterflies such as the Tibetan Brimstone *Gonepteryx amintha thibetana* (under publication) and the Ludlow's Bhutan Glory *Bhutanitis ludlowi*, both new records for India. Using the lepidopteran data generated during the first RSG grant , butterfly and moth tourism has already been initiated at Eaglenest WLS. A second RSG grant seeks to build local capability at Eaglenest to continue lepidopteran tourism independently, and to extend this tourism model to Pakke. In additional, additional species and population data for butterflies and moths will add to our knowledge of lepidopteran fauna of a poorly studied region and provide a baseline to assess the impact of climate change in the future. Despite recording 390 butterfly species, and 1,200 moth species during the first phase of the RSG project, based on the species accumulation curve, it is believed that the actual species count could be at least significantly higher for both these faunal groups.

Developing the draft conservation Strategy for Red panda, *Ailurus fulgens* in Darjeeling Himalayas

Sunita Pradhan

ATREE, Eastern Himalayas, Gangtok, Sikkim

Abstract

Apart from the conservation sector, Red panda attracts growing attention from public, various social groups, and shares special relationship with society in Darjeeling-Sikkim Himalayas, thereby functioning as an important flagship species. Red panda in India, was first studied in Singhalila National Park, Darjeeling during 1994-1998. This was followed up with other studies including one in Neora Valley National Park, Darjeeling in 2006 which culminated into developing a Draft Conservation Strategy for Red panda, duly supported by Rufford Small Grants. The Conservation strategy was developed to provide comprehensive conservation and research guidelines to ensure coordinated effort to save red panda, its associated forests, land and dependent species. The process entailed doing a distribution and abundance survey of the red panda in Neora Valley and Singhalila National Park along with an assessment of threats to the species and its habitat. Factors such as local socio-economic development, local policy, large infrastructure projects including roads, hydropower facilities, mass tourism, trans-boundary issues, surface as threats to red panda and its associated habitat in Temperate broadleaf and Subalpine Forests of Darjeeling-Himalayas. The strategy outlines and discusses the long-term and short-term action points for conservation of the species and its associated habitats.

Impacts of Parvati Hydro-Electric Project Development on the Critical Habitats of Montane Birds of Western Himalaya

Virat Jolli

CISMHE, Department of Environmental Studies,
University of Delhi, New Delhi, India

Abstract

The montane forest ecosystem of upper Sainj Valley in the Western Himalaya is under severe anthropogenic pressure due to the Parvati hydro-electric project (PHEP) development. The ongoing PHEP activities around highly biodiverse area could have negatively affected the birds of Sainj valley. To understand PHEP development impacts on montane birds, I sub-divided the study into two parts, which are as follows: (1) Impact of habitat disturbance on the avian species diversity, richness, abundance and community structure (2) Measuring land use/land cover change in the Sainj Valley during the HEP development. I used point count method for bird surveys. Montane bird communities were studied to determine their response along a disturbance gradient with the aim of identifying key factors influencing their distribution. Habitat types surveyed included primary and secondary montane forests, agricultural, and HEP affected habitats (disturbed). Response variables included total avifaunal and woodland species richness and abundance and were measured using point count surveys. Explanatory variables measured were related to tree and shrub density, canopy cover, disturbance intensity and altitude. Estimated species richness was higher for pristine and minimally disturbed sites, lower in agricultural sites and lowest in HEP affected sites. Ordination analysis revealed that tree and shrub density and disturbance influenced species distribution; woodland birds responded acutely with HEP activities. The foraging guilds of montane birds across a disturbance gradient suggested that frugivores and carnivores were the most affected one while omnivore abundance increased in human modified landscape, while insectivore abundance remained unchanged. The land use/land cover change was detected using satellite remote sensing. It showed PHEP development had brought land use change in Sainj Valley.

Conservation of Great Indian One Horned Rhino in Pabitora Wildlife Sanctuary, Assam, India

Bibhab Kumar Talukdar

Aaranyak, Assam

Abstract

The project is intended to study the causes of rhinos migrating outside the protected area of Pabitora Wildlife Sanctuary, Assam. The poachers take advantage to poach them outside the protected areas. In past 10 years 22 rhinos were killed by poachers outside the sanctuary. The study will reveal the cause and could offer solution to this problem to the forest department responsible for conservation and protection of the species. The cause of straying out by rhino may be for various ecological shortcomings. In addition mass awareness campaign supported by the educational materials will be distributed among the villagers around the sanctuary to garner support towards protection of rhinos from poachers.